CODE : A-B616123-A	**I Semester Exam 2025-26**	4 X 235
Std. : XII	Sub. : BIOLOGY	Marks : 70
Date :	Roll No. _____	Time : 3 hrs.

General Instructions :

1) **Section A** - Q. No **1** contains **Ten** multiple choice type of questions carrying **one** mark each.
   Q. No. **2** contains **Eight** very short answer type of questions carrying **one** mark each.
2) **Section B** - Q. No. **3** to Q. No. **14** are short answer type of questions carrying **two** marks each.
3) **Section C** - Q. No. **15** to Q. No. **26** are short answer type of questions carrying **three** marks each.
4) **Section D** - Q. No. **27** to Q. No. **31** are long answer type of questions carrying **four** marks each.
5) Begin the answer of each section on a new page.
6) For each MCQ. Correct answer must be written along with it's alphabet.
   e.g. (a) ..... /(b) ..... / (c) ...../(d)..... Only first attempt will be considered for evaluation.

Section - A

Q. 1 **Select and write the correct answer for the following multiple choice type of questions.** **10**

i) The alveolar epithelium of lungs is _____ epithelium.
   a) Squamous epithelium b) Cuboidal epithelium
   c) Tansitional epithelium d) Columnar epithelium

ii) Which genotype characterizes an organism that is heterozygous for two genes ?
   a) RRYy b) RrYY
   c) RRYY d) RrYy

iii) Diepedesis is performed by _____ .
   a) Erythrocytes b) Thrombocytes
   c) Adipocytes d) Leucocytes

iv) Griffith worked on _____ .
   a) Bacteriophage b) Drosophila
   c) Frog eggs d) Streptococcus

v) The most resistant biological material present in the exine of pollen grain is _____ .
   a) pectocellulose b) sporopollenin
   c) suberin d) cellulose

vi) Breakdown the alveoli of lungs resulting in shortness of breadth is seen in _____ .
   a) Asthma b) Pneumonia
   c) Pleurisy d) Emphysema

vii) Which of the following is both positive and negative interspecific population interaction ?
   a) Mutualism b) Commensalism
   c) Competition d) Parasitism

viii) Arthropod respires through _____ .
   a) Internal gills b) External gills
   c) Book gills d) Book lungs

ix) Write the correct pathway for transport of sperm.
a) Rete testis ⟶ Vasa efferentia ⟶ Epididymis ⟶ Vas deferens
b) Rete testis ⟶ Epididymis ⟶ Vasa efferentia ⟶ Vas deferens
c) Rete testis ⟶ Vas deferens ⟶ Vasa efferentia ⟶ Epididymis
d) Vasa efferentia ⟶ Rete testis ⟶ Vas deferens ⟶ Epididymis

x) Identify the type of food chain shown below
Sun ⟶ Grass ⟶ Deer ⟶ Leopard
a) Detritus food chain b) Parasitic food chain
c) Grazing food chain d) Aquatic food chain

Q. 2 **Answer the following questions.** 8

1) For how many seconds atrial diastole occurs in Cardiac Cycle ? 0.8 sec.
2) What is Herkogamy ?
3) State the function of acrosome.
4) Why does trachea have 'C' shaped rings of cartilage ?
5) Give one example of ex-albuminous seed.
6) Name the hormone which extends the life of corpus luteum and stimulates it's is secretary activity.
7) What is zonation ?
8) What is the value of Inspiratory reserve volume. 2500-3000ML

Section - B

Attempt any EIGHT of the following questions : 16

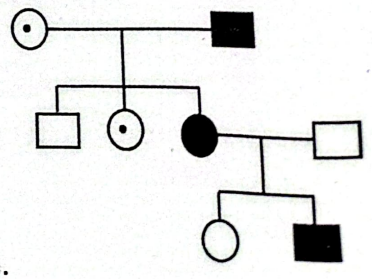
Q. 3 Match the column.

	'A'		'B'
i)	Hypohydrophily	a)	Maize
ii)	Epihydrophily	b)	Zostera
iii)	Chiropteryphily	c)	Vallisneria
iv)	Anemophily	d)	Bat

Ans. i) _____ , ii) _____ , iii) _____ , iv) _____

Q. 4 Sketch L.S of testis and label the parts given below.
a) Rete testis
b) Seminiferous tubule

Q. 5 Observe the give pedigree chart and answer the following questions.
a) Identify whether the trait is sex linked or autosomal gene
b) Give an example of a trait in human beings which shows such a pattern of inheritance.



Q. 6 Distinguished between Monocistronic & Polycistronic gene.

Q. 7 Match the age pyramid with growth rates.

	'A'	'B'
i)	Rapid growth	a) Australia
ii)	Zero growth	b) Germany
iii)	Negative growth	d) Kenya
iv)	Slow growth	d) Italy

Ans. i) _____ , ii) _____ , iii) _____ , iv) _____

Q. 8 Define : a) Gross primary production
b) Sere

Q. 9 Find the odd one out.
a) Mesoderm - Gonads, Kidney , Sclera of eye , Iris of eye.
b) Ectoderm - Stomach , intestine , salivary gland , thymus gland

Q. 10 Name the organisms in which Gemmule formation and Conidia formation occurs through asexual reproduction.

Q. 11 Explain why logistic growth model is considered a more realistic one

Q. 12 Enlist the types of Nutrient's cycles and give example of each.

Q. 13 Explain Chloride Shift or Hamburger's phenomenon.

Q. 14 Write a note on Lymphatic System.

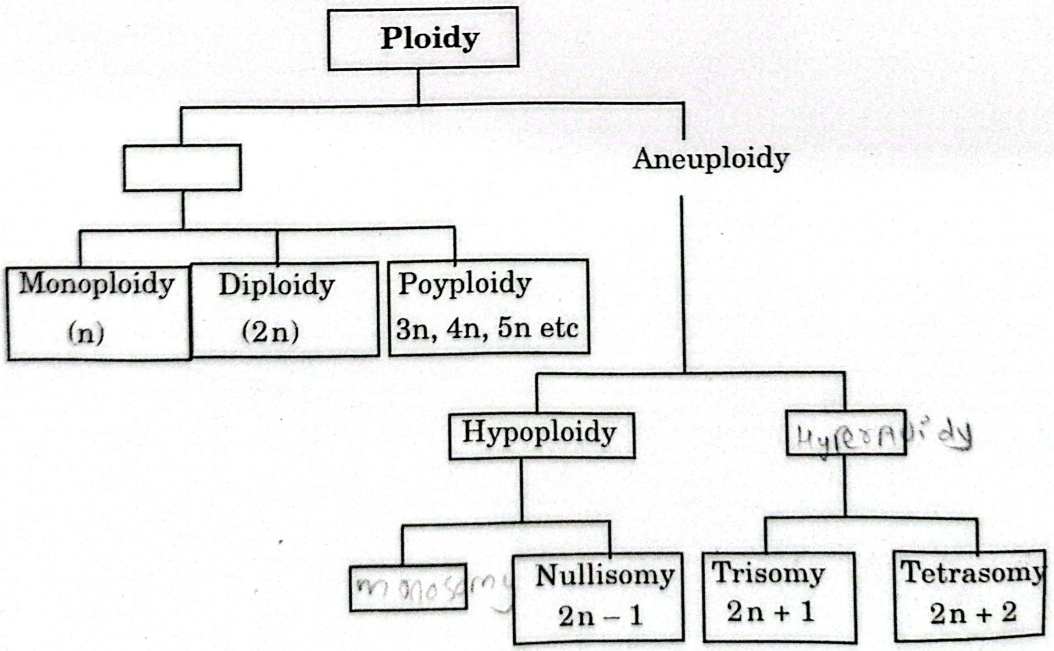
Section - C

Attempt any EIGHT of the following questions. 24

Q. 15 Explain development of male gametophyte with the help of neat labelled diagram.

Q. 16 Write a note on different stages of parturition.

Q. 17 Complete the flow chart.



Q. 18 Write a note on Heart wall.

Q. 19 Write a note on Natality and distinguish between Absolute Natality and Realized Natality.

Q. 20 Complete the table.

	Organism	Chromosome number	Estimatedgene number
1.	Fruit fly	8	13,000
2.	Yeast	32	6,000
3.	96	10	25,000

Q. 21 State R. Lindermann's Law of transfer of energy & draw the pyramid of Biomass.

Q. 22 Name the different types of endosperm with one example of each.

Q. 23 Draw a neat labelled diagram of Early Blastocyst.

Q. 24 Explain - Pleiotropy with representation.

Q. 25 Name the amino acid prepared by the following codons.
a) AUG b) CUÁ c) UUG

Q. 26 Distinguish between Inspiration and Expiration.

Section - D

Attempt any THREE of the following questions. 12

Q. 27 Explain incomplete dominance and Co-dominance with suitable example.

Q. 28 Describe the structure of sperm with the help of diagram.

Q. 29 What are contraceptive ? Give the different way of birth control through temporary methods.

Q. 30 Write any four characteristics of Genetic code with explanation.

Q. 31 Explain External respiration with the help of suitable diagram.